

RIEGL VZ-400i



The **RIEGL VZ-400i** is a cutting-edge 3D Laser Scanning System which combines a future-oriented, innovative processing architecture and internet connectivity with **RIEGL's** latest waveform processing LiDAR technology.

This real-time data flow is enabled through dual processing platforms: a dedicated processing system for simultaneous acquisition of scan data and image data, waveform processing and system operations, and a second processing platform which enables automatic on-board registration, geo-referencing, and analysis to be executed in parallel.



RIEGL VZ-400i

Ultra High Performance 3D Laser Scanner *Redefining Productivity!*

Typical Applications

- Architecture & Facade Measurements • As-Built Surveying • Archeology & Cultural Heritage Documentation • City Modeling
- Civil Engineering • Building Infrastructure Management (BIM) • Forensics & Crash Scene Investigation • Emergency Management
- Tunnel Surveying • Forestry • Research • Monitoring



Scan this QR code to
watch the VZ-400i video.

www.riegl.com



RIEGL VZ-400i Main Features

- ultra high speed data acquisition with up to 500,000 meas./sec, survey-grade accuracy ≤ 5 mm, up to 800 m measurement range
- high quality point cloud colorization based on Nikon® SLR camera image data taken simultaneously during scanning, integration of various cameras possible
- orientation sensor for pose estimation
- advanced flexibility through support for external peripherals and accessories, e.g. external Bluetooth GNSS receiver on top
- cloud connectivity via Wi-Fi and 3G/4G LTE
- fully compatible with the RIEGL VMZ Hybrid Mobile Laser Mapping System
- RISCAN PRO standard processing software (included), RiSOLVE for fully automatic registration and colorization of scan data (optional)

Automatic On-board Registration

With two processors on-board, the RIEGL VZ-400i is able to perform different processes in real-time such as automatic on-board registration in parallel to the scan data acquisition.

Processor 1

- **scan data acquisition**
- simultaneous acquisition of photographs during scanning
- pose estimation (using GNSS/IMU/environment sensors)

Processor 2

- conversion of scan data into RIEGL data base
- on-board multiple time around resolution
- **registration of scan data** as a background process

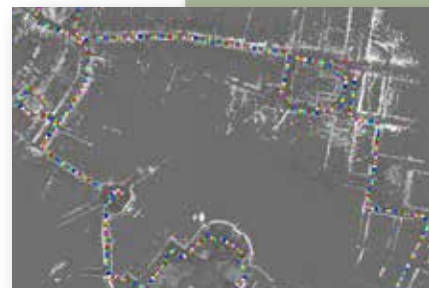


VZ-400i Field Experience:

One of the fastest scanners on the market:
500+ scans (50 mdeg) within 8 hours,
handled by one operator!



RIEGL VZ-400i night scan in Vienna



overview of scan positions (colored dots)



scan data detail, reflectance-scaled

Further Application Examples:



city modeling



forensics & investigation

RIEGL VZ-400i Technical Data



| Laser Pulse Repetition Rate PRR (peak) | 100 kHz | 300 kHz | 600 kHz | 1,200 kHz |
|---|---------------------------------|---------|---------|-----------|
| Max. Effective Measurement Rate (meas./sec) | 42,000 | 125,000 | 250,000 | 500,000 |
| Max. Measurement Range ($\rho \geq 90\%$) | 800 m | 480 m | 350 m | 250 m |
| Max. Measurement Range ($\rho \geq 20\%$) | 400 m | 230 m | 160 m | 120 m |
| Minimum Range | 1.5 m | 1.2 m | 0.5 m | 0.5 m |
| Accuracy / Precision | 5 mm / 3 mm | | | |
| Field of View (FOV) | 100° vertical / 360° horizontal | | | |
| Eye Safety Class | Laser Class 1 (eyesafe) | | | |
| Main Dimensions (width x height) / Weight | 206 mm x 308 mm / 9.7 kg | | | |

Further details to be found on the current RIEGL VZ-400i Data Sheet.